ABSTRACT OF THE DISCLOSURE

Perspective distortion is estimated in a digital document image by detecting perspective pencils in two directions, one being parallel to text lines, and the other being parallel to the boundaries of formatted text columns. The pencils are detected by analyzing directional statistical characteristics of the image. To detect a pencil, a first statistical line transform is applied to transform the image into line space, and a second statistical score transform is applied to transform the image into pencil space. A dominant peak in pencil space identifies the perspective pencil. In addition, a computationally efficient line summing technique is used for effecting sums of pixels along inclined target lines (or curves) through an image. The technique includes pre-generating partial sums, and summing along step segments of a target line using the partial sums.

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